PATENT
Attorney Docket No. 05788-0159-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Bartolomeo Italo TIRLONI	)	Group Art Unit: Unassigned
	)	
Serial No.: Unassigned	)	Examiner: Unassigned
	)	
Filed: March 20, 2001	)	
	)	
For: OPTICAL FIBER FOR EXTENDED WAVELENGTH BAND	)	

being a **Continuation** of PCT International Application No. PCT/EP99/06958 filed September 21, 1999.

BOX PATENT APPLICATIONS
Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Before examining this application, please amend the application as follows:

IN THE SPECIFICATION:

Please amend the specification as follows:

Page 1, after the title, insert a new paragraph as follows:

This application is a continuation of International Application No. PCT/EP99/06958, filed September 21, 1999, and claims the priority of EP98117828.8, filed September 21, 1998, and the benefit of U.S. Provisional application No. 60/104,636, filed October 16, 1998.

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

IN THE CLAIMS:

Please cancel claims 1-34 without prejudice or disclaimer and substitute new claims 35-67 therefor as follows:

WHAT IS CLAIMED IS:

35. (New) A single-mode optical transmission fiber for use in a wavelength-division-multiplexing transmission system having carrier wavelengths in an extended wavelength range between about 1530 and 1650 nm, the fiber comprising:

a glass core including:

an inner core having a first refractive-index difference;

a first layer radially surrounding the inner core along the length of the fiber and having a second refractive-index difference of less than zero,

a second layer radially surrounding the first layer along the length of the fiber and having a third refractive-index difference,

a third layer radially surrounding the second layer along the length of the fiber and having a fourth refractive-index difference of greater than zero; and

a glass cladding surround the glass core and having a refractive-index difference substantially equal to zero,

wherein said second layer has a width in the range 1-5 μm and said third refractive-index difference is, in absolute value, less than 40% of said second refractive-index difference.

36. (New) The fiber of claim 35, wherein said third refractive-index difference is, in absolute value, less than 20% of said second refractive-index difference.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
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37. (New) The fiber of claim 36, wherein said third refractive-index difference is substantially zero.

38. (New) The fiber according to claim 35, wherein said second layer has a width in the range of 2-4 μm.

39. (New) The fiber according to claim 35, further comprising a fourth layer radially surrounding the third layer along the length of the fiber and having a fifth refractive-index difference of less than zero.

40. (New) The fiber according to claim 35, wherein the first refractive-index difference of the inner core exceeds the fourth refractive-index difference of the third layer.

41. (New) The fiber according to claim 35, wherein the fourth refractive-index difference of the third layer exceeds the first refractive-index difference of the inner core.

42. (New) The fiber according to claim 35, wherein the fiber has a zero-dispersion wavelength of less than about 1500 nm.

43. (New) The fiber claim 42, wherein the fiber has a zero-dispersion wavelength of less than about 1480 nm.

44. (New) The fiber according to claim 35, wherein the fiber has a dispersion slope less than or equal to 0.043 ps/nm^2/km at a wavelength of 1550 nm.

45. (New) The fiber according to claim 35, wherein the extended wavelength range is between about 1450 and 1650 nm.

46. (New) The fiber of claim 45, wherein the fiber has a dispersion slope less than about 0.07 ps/nm^2/km over the extended wavelength range.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
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47. (New) The fiber of claim 46, wherein the fiber has a dispersion slope less than about 0.05 ps/nm^2/km over the extended wavelength range.

48. (New) The fiber according to claim 35, wherein the fiber has a dispersion value of at least 1.5 ps/nm/km over the extended wavelength range.

49. (New) The fiber of claim 48, wherein the dispersion value ranges from about 1.5-12 ps/nm/km across the extended wavelength range.

50. (New) The fiber according to claim 35, wherein the fiber has a dispersion slope less than or equal to 0.046 ps/nm^2/km at a wavelength of 1550 nm.

51. (New) The fiber according to claim 35, wherein the fiber has a zero-dispersion wavelength of less than about 1450 nm.

52. (New) The fiber according to claim 35, wherein the fiber has an effective area of greater than 50 μm^2.

53. (New) The fiber according to claim 52, wherein the fiber has an effective area of about 55 μm^2.

54. (New) A method for producing a single-mode optical fiber for use in a wavelength-division-multiplexing transmission system having carrier wavelengths in an extended wavelength range, comprising:

producing a perform having

an inner core region with a first refractive-index difference;

a first layer radially surrounding the inner core region along the length of the preform and having a second refractive-index difference of less than zero,

a second layer radially surrounding the first layer along the length of the perform and having a third refractive-index difference,

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FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
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a third layer radially surrounding the second layer along the length of the perform and having a fourth refractive-index difference of greater than zero; and

a glass cladding layer surrounding the core region and having a refractive-index difference substantially equal to zero; and

drawing said preform,

wherein the step of producing a perform comprises:

- selecting said third refractive-index difference to be, in absolute value, less than 40% of said second refractive-index difference; and

-selecting a width of said second layer in the perform so that a corresponding layer in the drawn fiber has a width in the range 1-5 μm.

55. (New) The method of claim 54, wherein said third refractive-index difference is selected to be, in absolute value, less than 20% of said second refractive-index difference.

56. (New) The method according to claim 54, wherein the step of producing a perform comprises selecting a width of said second layer in the perform so that a corresponding layer in the drawn fiber has a width in the range 2-4 μm.

57. (New) The method according to claim 54, comprising selecting the widths of said inner core region and of said first, second and third layers and selecting said first, second, third and fourth refractive index differences so that the dispersion slope of the drawn fiber is less than or equal to 0.046 ps/nm^2/km at a wavelength of 1550 nm.

58. (New) The method of claim 57, comprising selecting the widths of said inner core region and of said first, second and third layers and selecting said first,

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FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
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second, third and fourth refractive index differences so that the dispersion slope of the drawn fiber is less than or equal to 0.043 ps/nm^2/km at a wavelength of 1550 nm.

59. (New) A single-mode optical transmission fiber, comprising:

a glass core having a central cross-sectional area with a first refractive-index peak, an outside ring with a second refractive-index peak higher than the first peak, a first intermediate region between the two peaks having a low-dopant content, and a second intermediate region between the first peak and the first intermediate region with a refractive-index depression lower than the first intermediate region; and

a glass cladding surrounding the glass core, wherein the fiber has a dispersion slope of less than about 0.05 ps/nm^2/km over a wavelength range of about 1530-1650 nm.

60. (New) The fiber of claim 59, further comprising a layer radially surrounding the outside ring and having a depressed refractive-index difference.

61. (New) The fiber according to 59, wherein the fiber has a dispersion value of at least 1.5 ps/nm/km over a wavelength range of about 1530-1650 nm.

62. (New) The fiber of claim 61, wherein the fiber has a zero-dispersion wavelength of less than 1500 nm.

63. (New) The fiber of claim 62, wherein the fiber has a zero-dispersion wavelength of less than about 1480 nm.

64. (New) The fiber according to claim 59, wherein the fiber has a dispersion slope of less than about 0.05 ps/nm^2/km over a wavelength range of about 1450-1650 nm.

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65. (New) The fiber of claim 64, wherein the fiber has a zero-dispersion wavelength of less than about 1450 nm.

66. (New) The fiber according to claim 59, wherein the fiber has an effective area of greater than 50 μm^2.

67. (New) The fiber according to claim 66, wherein the fiber has an effective area of about 55 μm^2.

REMARKS

The claims have been amended to conform them to the Article 34 amendment filed in PCT/EP99/06958, to conform them to U.S. practice and to eliminate multiple claim dependency. Claims 35-67 are pending in this application. No new matter has been added.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: March 20, 2001

By: _____
Ernest F. Chapman
Reg. No. 25,961

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000